

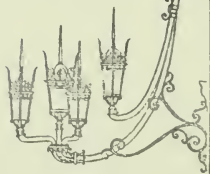
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Summary

MASTER PLAN FOR THE YARD'S END

NAVY
CHARLESTOWN
YARD

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City of Boston, Raymond L. Flynn, Mayor
Boston Redevelopment Authority, Stephen Coyle, Director

JANUARY 1990

Dear Fellow Citizen:

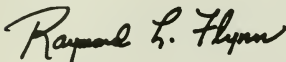
Since I first assumed the office of Mayor in 1984, the redevelopment and revitalization of the Charlestown Navy Yard has been among the highest priorities of my administration. The historic significance of the Navy Yard to Boston, its vital contribution to the Charlestown community, and its economic importance to workers throughout the Boston Area are but three of the reasons why the Charlestown Navy Yard is such a high priority.

Over the past five years, the Navy Yard has experienced nearly a half billion dollars in private investment. The results of this investment have been the creation of housing, commercial offices, hotel facilities, and recreational and open spaces. With the conversion, by Massachusetts General Hospital, of more than 600,000 square feet to medical research use, the Navy Yard has also become one of Boston's most important areas for "new economy" development and job opportunities.

Despite these numerous achievements, there remains much in the way of economic potential to be realized in the Charlestown Navy Yard. The Master Plan detailed in this document identifies that potential and the goals to be achieved through future development within the Yard. The Plan also provides the direction and guidance that will be required to ensure that these goals are met.

The Charlestown Navy Yard Master Plan is the product of the efforts and vision of hundreds of committed Charlestown residents, residents who have worked tirelessly with City officials for nearly three years. I wish to express my sincere thanks to all of them for a job well done. I also look forward to working with them, and with all of you, in transforming this Plan into the reality of economic opportunities and benefits that is the true promise of the Charlestown Navy Yard's future.

Sincerely,

A handwritten signature in dark ink, reading "Raymond L. Flynn". The signature is fluid and cursive, with the first name "Raymond" being larger and more prominent than the last name "Flynn".

Raymond L. Flynn
Mayor of Boston

Introduction

Over the past 35 months the Charlestown community, through its Neighborhood Council, has been engaged with the Boston Redevelopment Authority in master planning a 100 acre area of Boston that is critical to the economic health of the neighborhood, city, and state. The challenge of shaping a master plan that meets both the neighborhood's and city's needs, while also tapping the economic trends of the 1990s, is one that requires detailed research, a neighborhood-based planning process, and a master plan that can be approved and implemented in a period when the region most needs economic growth in new areas to occur.

With other cities eager to attract the "new economy" (including industries of research and tourism), we hope you will read and understand the planning principles, social goals, and economic growth strategies that have gone into shaping this plan.

We would like to thank all of the members of the Charlestown Neighborhood Council, past and present, the Harborpark Advisory Committee, and all the interested and involved neighborhood residents that have helped to fashion this plan and to challenge the conventional planning ideas for the Charlestown Navy Yard. This plan is submitted for your support and approval, this challenge has improved the plan and your involvement has made a large difference in bringing the Navy Yard to completion in the 1990s.

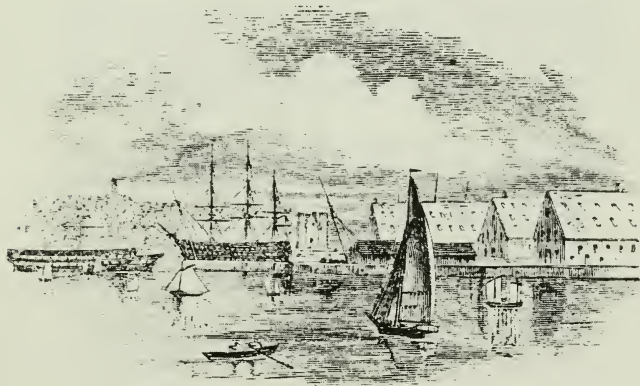
Dennis McLaughlin, Chairman
Charlestown
Neighborhood Council

Paul Barrett, Assistant Director
Harbor Planning & Development
Boston Redevelopment Authority

History of Charlestown Navy Yard

On Bunker Hill Day in the year 2000, the Charlestown Navy Yard will be 200 years old, having come into being on June 17, 1800, when the Massachusetts Legislature approved an act, in honor of the 25th anniversary of the Battle of Bunker Hill, which authorized the United States to purchase a tract of land in Charlestown for use as a Naval yard. The first 23 acres of land were purchased on August 16, 1800, at a price of \$19,350.

The Navy Yard exhibited a rural character during its first 30 years, consisting of a few scattered buildings, docks and wandering roads on a peninsula used for grazing cattle. The first structures built were simple sheds to house Navy material, consolidated from various locations. In 1803, Building 5, now the National Park Service Information Center and USS Constitution offices and crew quarters, was constructed. The Commandant's House, believed to have been built by Charles Bulfinch, was completed in 1809. The Navy Yard's first ship house was constructed in 1813, enabling ships to be built indoors year-round. The first ship off the ways was the U.S.S. Frolic, an 18-gun sloop launched on June 22, 1813.



NAVY-YARD IN 1858.

In 1826, Alexander Parris completed the 2,400 foot granite wall along the westerly edge of the Yard at the same time his Quincy Market Building opened in Boston. The first granite building in the Navy Yard was the Dry Dock Engine House, Building 22, which now houses the USS Constitution Museum, built in 1832. Dry Dock 1 was built in 1833 of granite from Cape Ann quarries. It was the second dry dock to be built in the nation, completed one week after the first in Norfolk, Virginia. The first ship to enter Dry Dock 1 was the USS Constitution, which was built in the North End of Boston in 1797.

In 1830, Colonel Loammi Baldwin, the "father of civil engineering in America," prepared plans to expand the Navy Yard into an industrial complex. The plans laid out the Navy Yard in a classical grid, dominated by five broad avenues with rectangular buildings conforming to the new street pattern, with the exception of the Ropewalk, drawn at a diagonal, parallel to the Salem turnpike.

Parris was engaged as the superintendent to complete the dry dock and several new buildings. Parris' Ropewalk, Tarring and Hemp Houses were completed between 1835 and 1837. The buildings incorporating unique state-of-the-art spinning and twisting machinery powered by steam boilers and engines, all designed by Boston inventor Daniel Treadwell.

Thirty-nine ships of war were built in the Navy Yard from 1813 to 1868 and many hundreds were repaired and outfitted. In 1855, the ironclad USS Merrimack was launched and later engaged by the Monitor in one of the Civil War's most famous sea battles. After the Civil War, new ship construction came to a virtual standstill. During the period from 1869 to 1933, the Navy Yard specialized in the repairing and outfitting ships.

Construction of Dry Dock 2 began in 1899. It was first occupied by the USS Maryland on August 12, 1905. Between 1900 and 1920, an extensive building program produced ten additional brick buildings and a new marine railway. During World War I the Navy Yard was used as an embarkation point and a supply depot as well as a repair center, with employment rising to 10,000.



Building 105—Die Lock Chain Making

In 1926, "Die-Lock Chain" was invented by two shipyard employees -- A.M. Leahy and C.G. Lutts -- during World War II, returning the Navy Yard to the forefront of naval research activities. There were almost 50,000 workers at the Navy Yard. Women made up over 40% of the workforce in 1944, being responsible for welding, painting, sheet metal cutting, rope making, and electrical assembly jobs. A total of 141 ships were built and over 3,200 ships overhauled during this period, and in 1943, a record of 46 destroyer escorts were built, 44% higher than by the Bureau of Shipbuilding quotas. The Navy Yard payroll at that time was over \$144 million. Work hours then were from "sunrise to sunset" with wages of \$1.00 to \$1.50 per day.

Shipbuilding virtually ceased after World War II. However, with the last ship built at the Navy Yard being the Land Ship Tank, USS Suffolk County in 1956. Once again, the Navy Yard returned to specializing in the repair and outfitting of ships. For example, the first guided missile destroyer, the USS Gyatt, was converted at the Navy Yard in 1957, and bow mounted sonar booms for guided missile destroyers began to be installed in 1961.

In 1971, production ended at the Ropewalk, which was the sole producer of all of the rope used by the Navy from 1838 until 1955. Finally, the Navy Yard was decommissioned by President Nixon in 1974, ending employment for 5,200 workers. In all, over 500 ships were built during the Navy Yard's 174 year history, with the USS Constitution being was the first and last ship to be repaired at the Navy Yard.



The Navy Yard was designated a National Landmark in 1977, and acquired by the city in 1978, which coordinated redevelopment efforts of one hundred acres, including the Historic Monument Area. The National Park Service retained ownership and management duties for the thirty acre National Historical Park, which features the USS Constitution and Dry Dock 1 at the Navy Yard's western end.

Since 1985, fourteen buildings have been rehabilitated and over 2 million square feet of construction has begun. The Navy Yard is the largest preservation and reuse effort in the country, with the private sector investing \$469 million through 1989. Completed and proposed construction and rehabilitation investments includes over \$1.3 billion in private funds.

Navy Yard Redevelopment Update

To date, redevelopment of the Navy Yard has occurred in two distinct periods characterized by widely different goals and achievements. From 1978 to 1983, immediately following the City's acquisition of the Navy Yard from the Federal government, investment was directed to construction of luxury housing. From 1984 to 1989 this course was changed dramatically, with significant public benefits such as jobs, affordable housing, and open space leveraged from the economic attractiveness of a prime waterfront location.

1978 - 1983 Initial Investment

Upon decommission and transfer to the City, initial investment in the redevelopment of the Charlestown Navy Yard from 1978 to 1983 resulted in modest achievements. Within the Historic Monument Area not a single building was restored to new uses. Only \$36 million in private funds was invested in the Navy Yard as a whole.

Rehabilitation of Building 42 resulted in 367 market-rate apartment units. Despite a goal that 10% of the housing built in Navy Yard was to be affordable, however, not a single unit of affordable housing was built from 1978 to 1983.

Access was strictly limited to wealthy homeowners and controlled by security guards. Shipyard Park was but partially completed. Only 16 people were employed at the Navy Yard in 1983. The Navy Yard was in danger of becoming an exclusive community of luxury condominiums. The condominiums on Pier 7 symbolize the general drift in direction during this time. The angular design is jarring within the historic Navy Yard grid of nineteenth century brick and granite buildings. In fact, virtually no open space is provided on Pier 7. Less space is available for public access to the water's edge than for private parking and the overall design blocks people from the harbor. Of the 64 condominiums in this development, none are affordable to low and moderate income families.

1984-1989: Changing Course, Rebuilding the Navy Yard

In 1984, a new planning initiative was undertaken for Boston's waterfront – HARBORPARK – which establishes guidelines that leverage the economic attractiveness of waterfront development to secure public benefits. The principal goals of Harborpark are to provide an open accessible waterfront that includes opportunities for recreation,

Charlestown Navy Yard Development 1978- 2000

	1978-1983	1984-1989	1990-1995	1996-2000	Potential Buildout in Special Study Area
Affordable Housing		154,400s.f. (171 du)	64,000s.f. (50du)	100,000s.f. (100du)	*
Market Rate Housing	300,000s.f. (367du)	783,000s.f. (403du)		198,000s.f. (110du)	*
Medical Research Office		630,000s.f. 343,000s.f.	550,000s.f. 60,000s.f.	550,000s.f.	*
Retail		113,000s.f.	34,000s.f.	24,000s.f.	
Hotel			350,000s.f.		
Cultural			275,000s.f.	195,000s.f.	
Total GSF (w/o Pkg)	300,000s.f.	2,023,400s.f.	1,333,000s.f.	1,067,000s.f.	250,000s.f.
Open Space	9 acres	13 acres	7 acres	4 acres	*
Harborwalk	8,000l.f.	4,000l.f.	2,500l.f.		
Marina Slips	170	180	175		
Parking Spaces	367	2,135	1,275		*

* Composition of potential buildout by use to be determined through Special Study process.

Project Phasing	N.A.	N.A.	Building 104 Yards End, I Parcel 4 Aquarium Building 75** Building 114	Bldg. 40A Pier 5 Yards End, II Ropewalk Building 105	Building 39A Building 150 Building 108
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Funds Invested

Total Private	\$36,000,000	\$433,000,000	\$524,000,000	\$352,000,000	\$70,000,000
Permanent Jobs	16	3,000	2,400	1,400	*
Construction Jobs	200	1,900	2,300	1,100	300
Jobs Linkage	0	\$115,000	\$875,000	\$415,000	*
Housing Linkage	0	\$3,289,000	\$4,375,000	\$2,075,000	*
Property Taxes*** (Cumulative)	\$250,000	\$6,800,000	\$13,300,000	\$16,600,000	\$17,500,000

*To be determined through Special Study area process.

** Building 75 relocated to new location; replaced with new 1,100 car parking garage.

***Recurring yearly revenue in 1989 dollars.

affordable housing and jobs for Boston residents. Harborpark will also result in improved public transportation, additional tax revenues, and a variety of cultural attractions.

Redevelopment of the Navy Yard was redirected to ensure that the Charlestown community shared in the benefits of Harborpark. The challenge involved developing a new economy with well-paying jobs that could once again provide a source of employment for neighborhood residents. A diverse economy, rather than one solely reliant on office and service sector uses, was envisioned to provide a broad range of permanent as well as construction jobs.

Since the implementation of the Harborpark policies in 1984, the Navy Yard has exhibited substantial growth and vitality. From 1984 to 1989 over \$433 million in private funds have been invested in the Navy Yard, resulting in a successful redirection of the Navy Yard to a part of the neighborhood has become an integral part of the Charlestown community open to all to live, to work, and to play. Three thousand permanent jobs and 1,900 construction jobs have been created in the Navy Yard, and the city now realizes annual tax revenue of over \$6.8 million.

Over 2,000,000 square feet of space in new and rehabilitated buildings has been completed. The number of construction jobs in the Navy Yard from 1984 to 1989 was 1,900. Permanent jobs have increased to 3,000 in 1989. The City's efforts to establish a diversified new economy bore fruit in 1987 with the opening of the Massachusetts General Hospital Research Center in Building 149.

A commitment that 25% of the total housing built in the Charlestown Navy Yard would be affordable replaced the prior unrealized goal of 10%. Of the 574 housing units constructed from 1984 to 1989, 171 units, or 30% of those built in this period, were affordable.

Ten historic buildings in the Historic Monument Area were meticulously restored to new uses and four more are nearing completion. The numerous preservation and design awards garnered by these projects testify to the high standards of historic preservation that have been achieved.

Over 13 acres of open space, including the completion of Shipyard Park, the Second Avenue pedestrian mall, and 8,000 linear feet of Harborwalk, have been completed. The open space, pedestrian walkways and benches around Dry Dock 2 and within Shipyard Park have become cherished recreational amenities for all of Charlestown.

The Courageous Sailing Center was established in 1987. Last year over 3,000 youths from Charlestown and other Boston neighborhoods throughout the City had an opportunity to learn and experience the pleasures of sailing in Boston Harbor at no cost to them or their families. More than 75% of the summer employees of the Center are Charlestown residents.

A water shuttle from Long Wharf to the Navy Yard began operation in 1987, and today is nearing 100,000 riders annually. This service alleviates vehicular traffic problems in Charlestown and the Navy Yard.

In 1989, a 3,800 square foot day care center was opened in Building 36 providing 48 slots for infants, toddlers and pre-schoolers. Another day care center under development in Building 266 will accommodate 90 more children. An additional center is planned for Building 149, and will be a component of new development at Yard's End.

Events such as the annual Harborpark Day draw residents from Charlestown and the entire City to the Navy Yard on a regular basis. In 1989, Harborpark Day and Harborfest attracted over 12,000 people to the enjoyment of Chowderfest, puppet shows, musical performances and relaxation alongside the waterfront.

The general goals for redevelopment during the last five years are best symbolized by the Bricklayers and Laborers Union affordable housing development at First Avenue and Thirteenth Street. This project provides homeownership for 50 working families. Large two and three bedroom units are tailored to the needs of family life. The overall massing reinforces visual and access corridors to the water's edge. That the handsome brick design fits naturally into the historic Navy Yard is well recognized by the numerous awards this project has already received.

Boston's success in aggressively targeting development in Charlestown Navy Yard in recent years can be visibly measured by comparing the increase in private investment, which has grown from \$36 million between 1978 and 1983 to \$433 million between 1984 and 1989 and an anticipated investment of over \$800 million through 2000.

The Navy Yard has captured the interest of Boston's largest growing industry, biotechnology, to anchor permanent facilities. The attraction has expanded to the international biotechnology community. Also, the presence of the Aquarium, with the added aspect of marine-related education and research, will mark the Navy Yard as a base for an even wider scope of research and development. This will help bring Boston

and Charlestown through the 1990s into the next century with a diversified employment base .

In retrospect, 1984 to 1989 was a critical period for the successful redevelopment of the Navy Yard. Local financial wisdom initially viewed the Navy Yard's prospects for success as limited. The redevelopment which has occurred established the economic viability of the Navy Yard and provided the foundation for future economic opportunities.

Yard's End: Framework for the Plan

The Master Plan for the Yard's End will manage the completion of the Charlestown Navy Yard, as it is rebuilt for commerce, research, recreation, and city living. Throughout most of the last 200 years, the Navy Yard was central to the life and economy of Charlestown. The objective of the Master Plan is to revitalize the Navy Yard and once again make it a central part of the Charlestown community.

The Master Plan takes advantage of the Navy Yard's waterfront location and proximity to downtown Boston. Despite its attractive location, Yard's End in the Navy Yard is still underutilized and uninviting. Its current state is the result of the decline of the Navy Yard that began with the end of the World War II. By the time of its closing in 1974, the Navy Yard employed about 5,200 people – a little more than one-tenth the wartime peak.

The Navy Yard extends from the U.S.S. Constitution near downtown Boston to the Little Mystic River across from Chelsea, between Chelsea Street and the Harbor. It was long a center of Navy shipbuilding, employing as many as 50,000 people at the height of World War II. It already is the site of considerable historic preservation and reuse efforts for recreational, commercial, research, and residential uses. At the same time, the Yard's End section consists primarily of vacant land and underutilized historic buildings. This combination provides an ideal opportunity for completing the revitalization of the Navy Yard which will include new and existing cultural facilities, houses, offices, neighborhood businesses, and research institutions in both new and rehabilitated buildings.

To manage growth in the Charlestown Navy Yard, the 1987 Harborpark Interim Zoning Plan, the current zoning, requires the creation of a master plan. The Master Plan for the Yard's End is a product of the community-based planning process initiated in the Harborpark Plan. The Master Plan, including permanent zoning policies, looks to build mixed-income housing, provide growth in new economic endeavors, preserve historic buildings, establish neighborhood business opportunities, protect and create open space, and improve local transportation systems.

Since its acquisition by the Boston Redevelopment Authority (BRA) in 1978, the center of the Navy Yard has undergone a rebirth. In the 1990s,

the Navy Yard's vacant parcels of land and underutilized buildings can be redeveloped to provide a large amount of space for the city's medical research industries, and become host to one of the city's most popular attractions, the New England Aquarium. Interest in the Yard's End is already high: the Massachusetts General Hospital has begun occupancy of more than 600,000 square feet of research space in the adjacent Building 149, and the New England Aquarium has decided to pursue relocation to the Yard's End.

The revitalization of the Navy Yard is already well underway: Shipyard Park is in place, as is a 400 foot long public pier; 941 homes have been built or are nearing completion, 171 of them affordable to low and moderate income families; two public sailing centers, one for children (featuring the two-time America's Cup winner *Courageous*) and one for adults are operating; the necessary infrastructure of roads and utilities is in place; and fourteen out of twenty-two buildings in the Historic Monument Area have been or are being rehabilitated.

The new Navy Yard will become one of the largest mixed-income waterfront developments in New England, helping meet the need for affordable housing in Charlestown. The presence of both residents and the new Aquarium will help make the Navy Yard a lively and inviting area seven days a week. While 1008 units of housing have been built on BRA-owned land in Charlestown and in the Navy Yard in the past five years – 347 of them affordable – affordable housing remains a critical need for Charlestown residents.

Land Use Strategies

The land use strategies for Yard's End, and the completion of the Navy Yard, are as follows:

- Create housing affordable to all sectors of the community, with priority to Charlestown residents, and maximize the opportunities for the creation of all new housing;
- Create a quality public environment on the waterfront through Harborwalk by providing new open spaces and continuous public access to the water;
- Establish a land use plan which links economic activities, job and business opportunities, affordable housing opportunities, and active recreational activities for the Charlestown community;
- Manage growth so that appropriately-designed, mixed-use development occurs on the waterfront with benefits that are shared by all Boston residents.

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- Balance economic growth in the new industries with environmental and quality of life considerations, to provide a diverse economic base;
 - Direct the future economy from back office uses toward lower impact uses such as research and development.

The Master Plan envisions the emergence of a vibrant mixed-use community. The development program will help knit together Charlestown and the Navy Yard by providing affordable housing, neighborhood business opportunities, and job and recreation opportunities. These goals will be achieved through implementation of the following program for the Navy Yard and Yard's End:

- Provide economic opportunity and a diversified economic base at Yard's End, with a research center and major public educational facilities, by building a new Aquarium, creating 900,000 square feet of medical research space in new buildings (and up to 200,000 additional square feet on Building 199), and constructing a 390-room hotel and conference center. In this way, the gains of one decade are not lost as shifts in the economy occur. The balance of office and research space and the Aquarium will help to insulate the economy from cyclical shifts.
- Meet Charlestown's needs by using the linkage money from new Navy Yard research and commercial buildings to fund affordable housing for Charlestown residents, by encouraging the expansion of the Charlestown business community into a relocated Building 75 adjacent to the new Aquarium, and by building new affordable housing and elderly housing for Charlestown residents within the Navy Yard.
- Increase housing in the Charlestown community by building more than 300 units of new housing, 180 of them affordable for low- and moderate-income families, including 50 units of affordable housing in Building 104.
- Expand job opportunities for Charlestown and Boston residents, to build an active mixed-use area that will be home to 3,000 people and employ more than twice that number, including a job training and placement center for Charlestown residents in the secure, well-paying research field.
- Make the Navy Yard's transportation system more efficient by upgrading water transit facilities, constructing a new road for traffic to bypass City Square, cutting a new Gate 6 to create better vehicular access and circulation in the Navy Yard, and building new parking facilities for 1,275 cars.
- Complete the rehabilitation of the Navy Yard's historic buildings, with a particular focus on their potential for residential, cultural, and neighborhood business reuse.

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- Upgrade and maintain the Navy Yard's open space network with \$750,000 of improvements to Shipyard Park, a new five-acre park at Yard's End, an extended Pier 3, developing landscaped pedestrian ways and a completed Harborwalk — 3.3 miles of continuous public walkway along the water's edge (already 50% complete).

Development at Yard's End will produce benefits including more than 3,500 permanent new jobs and 3,400 construction jobs, over \$1 million jobs linkage, more than \$5 million in housing linkage, and \$6 million annually in new property taxes.

The objective of the Master Plan is to manage growth in a way that protects the Navy Yard's historic character and that of Charlestown while reestablishing the Navy Yard as a viable part of the life of the neighborhood and the City.

By the year 2000, the Navy Yard will be a well-known destination for residents, workers, and visitors alike, and a model for waterfront redevelopment.

The Yard's End Master Plan

The Community Process

The Yard's End plan is the culmination of an extensive community process that commenced in 1987. Since that time over 75 public meetings have been held with Charlestown residents, local merchants, various harbor users, organized labor and other interested organizations to create a plan that fulfills the goals that have been espoused through the three-year process. The recurring themes have been affordable housing, increased open space and public access, historic preservation, cultural uses, neighborhood economic development, and job opportunities, while managing the transportation issues related to this growth.

The planning principles that evolved from the bottom up process establish the framework for the next decade of revitalization of the Charlestown community and its Navy Yard. Future development in the Navy Yard must respond to the primary goals established by the community.

The following goals and objectives for the Master Plan have been established by the BRA in conjunction with the Charlestown community and private developers within the Yard. Modifications have been made to reflect recent community input regarding the issues of affordable housing, open space, job creation, and transportation access.

- Develop market-rate and affordable housing and home ownership opportunities, with a goal of achieving an on-site affordable housing ration of 25 percent.
- Produce attractive commercial and retail space to accommodate the expanding Boston economy, and to create a wide range of employment and business opportunities.
- Achieve a balance between residential, open space, commercial/retail, hotel, and waterfront uses.
- Create a substantial and attractive system of public open spaces, waterfront access, recreational opportunities, and exciting public attractions, for people of all ages and backgrounds to use and enjoy.
- Realize a maximum amount of public benefits, including construction and permanent jobs, new taxes, and various linkage programs.
- Rehabilitate the Navy Yard's many historically significant structures and elements, while successfully integrating contemporary urban design solutions to refit the Navy Yard for its new life.

- Manage increased traffic levels to prevent traffic congestion in the Navy Yard and the Charlestown neighborhood.
- Maximize community participation and input into the planning and decision-making process which will shape the development and character of the Navy Yard.

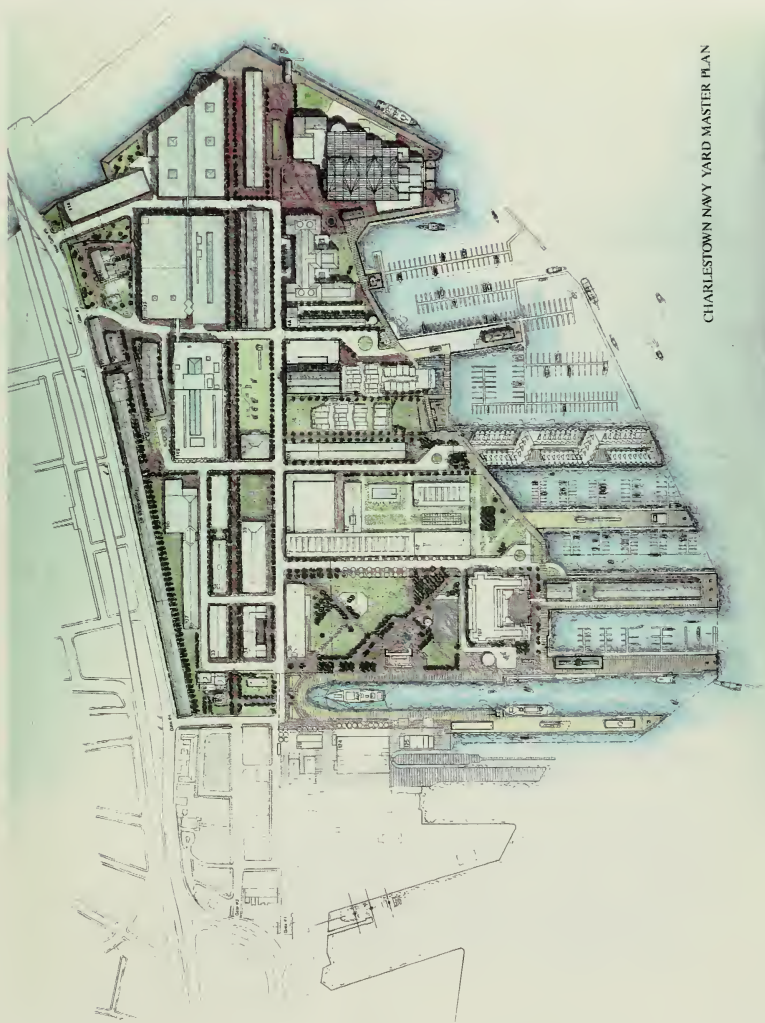
The Yard's End Development Program

Yard's End is well suited to accommodate the medical research, cultural and hotel uses planned between 1990 and 2000. This area includes approximately 20 acres of predominantly vacant land at the periphery of the Historic Monument Area. The few remaining structures date from periods of construction in the 20th century and contribute little historic character. Dry Dock 5, for example, was built as a temporary facility, during World War II, of concrete and sheet steel and is now in derelict condition. The piers to either side are deteriorated and in unsafe condition. Building 114 was ravaged by fire in 1980 and remains a vacant shell.

In sum, redevelopment envisioned at Yard's End includes the following:

- The New England Aquarium at Dry Dock 5/Parcel 5;
- A medical research center totaling up to 1.1 million sq. ft.;
- A 390-room hotel/conference center with 175 parking spaces;
- The relocation of Building 75 adjacent to the new Aquarium, to serve as a festival market place run by neighborhood businesses;
- An 1,100-car parking garage on the current site of Building 75;
- Ground level service retail to animate public spaces; and
- Over 5 acres of new public open space.

The proposed development at Yard's End totals 1,725,000 square feet. This total is 250,000 more square feet than the 1,475,000 proposed by the BRA in its May 10, 1988 Master Plan, and about 258,000 more square feet than the 1,467,280 proposed in the community's August 11, 1988 Master Plan. The difference represents about 5% of the total development in the Navy Yard – an increase in floor area ratio (FAR) of .05. By the measure of the 1988 plans, the new plan increases the Navy Yard FAR from 1.029 to 1.084. Yet with the shift in the mix of uses to lower peak hour traffic generation, development in accordance with the plan will have less traffic impact than the 1988 plans.



CHARLESTOWN NAVY YARD MASTER PLAN

1990-1995: Balanced Growth

In the first phase of Yard's End development, it is envisioned that 550,000 square feet of additional medical research space will be developed at Yard's End. In addition, a 390 room hotel with conference facilities is planned on Parcel 4 of Yard's End. The planned relocation of the Aquarium to Dry Dock 5/Parcel 5 will broaden the economic base to include off-peak activity within the Navy Yard. The total development will be limited to that already completed or underway in the Navy Yard.

As a result of these three projects alone, 2,400 permanent jobs will be created. In accord with the city's resident jobs policy, 50% of these jobs are expected to be held by Boston residents. Furthermore, a key aspect of the Navy Yard Master Plan is a concerted employment strategy to maximize participation of Charlestown residents in new employment opportunities. A goal of 25% of the new jobs created to be filled by Charlestown residents has been established.

1995-2000: Completing the Navy Yard

The last phase of the Navy Yard redevelopment is timed to coincide with completion of the CANA roadway improvements. By this time other transportation improvements previously described should be in place or well underway, providing capacity to accommodate continued growth from 1995 to completion in 2000.

By the year 2000, approximately 6,500 people will work in the Navy Yard and upwards of 3,000 people will live there. Many will be drawn to the recreational amenities afforded by 34 acres of public open space and more than three miles of Harborwalk. Others will visit the Aquarium, USS Constitution, and other cultural uses such as the Chain Forge Museum, and the planned New England Antiquities Museum in the Ropewalk.

In historic, cultural and recreational resources, the Navy Yard will be on par with the Commonwealth's most historically significant places.

Most importantly, the Navy Yard will be a vital part of the Charlestown community. A minimum of 70% of the affordable housing built in the Navy Yard will be available to Charlestown residents and 25% of the new jobs created at the Navy Yard will be filled by Charlestown residents. A job training and placement center established within the Navy Yard will ensure a continuing source of employment opportunity for the neighborhood. The open space and Harborwalk will be publicly

accessible to all. As a result of the hard work and participation of the Charlestown community in fashioning the Navy Yard Master Plan in partnership with the City, the Navy Yard vision can again become a vital part of Charlestown.

The Components of the Plan: New England Aquarium

Relocation of the New England Aquarium to Dry Dock 5/Parcel 5 will create a major public magnet at Yard's End. In 1988 alone, over one million adults and children toured the present Central Wharf facility – double its planned capacity. The Dry Dock 5/ Parcel 5 site provides an opportunity to construct an expanded facility that can accommodate the growing number of visitors and maintain the New England Aquarium's world class position. It also ensures continued presence of a pre-eminent waterfront destination on Boston Harbor.

The Navy Yard was identified as a potential new home for the Aquarium by its Board of Trustees in September of 1988. Following an extensive review period, during which the New England Aquarium and their consultants met on many occasions with the Charlestown Neighborhood Council and the Charlestown community, the Board of Trustees voted to pursue relocation at Dry Dock 5/Parcel 5. The Aquarium will continue to work with the Charlestown Neighborhood Council and the City of Boston to shape the details of their program and address any outstanding issues and community concerns.

The relocation of the Aquarium will bring with it many economic benefits for Charlestown, Boston and the region. The Aquarium currently employs 174 people at its Central Wharf location, 37% of whom are Boston residents. A relocated Aquarium at Dry Dock 5/Parcel 5 will result in a 100% increase in the number of job opportunities. In addition, 50% of the 1,360 construction jobs created will be awarded to Boston residents in accord with Mayor Flynn's Boston Jobs Policy.

Economic benefits will also result from the Aquarium's relocation and expansion plans. The expansion is expected to increase local annual day trip spending by Aquarium visitors from \$6,500,000 to \$9,000,000. Charlestown residents will be given priority for the creation of a festival marketplace in a relocated Building 75, which will capitalize on its proximity to the new Aquarium.

The new Aquarium will sponsor expanded educational programs for area school children. In addition, the Aquarium is discussing job training and educational programs for marine-related careers with the Bunker Hill

Community College. An Elderly Volunteer Group program will be established.

The Dry Dock 5/Parcel 5 site will allow the Aquarium to construct the world's most technologically advanced facility for the study and exhibition of the marine environment. It will include a glass enclosed underwater walkway that takes people through the main exhibition tank with whales swimming above and below. The design is capped by a glass roof reminiscent of the 19th century Crystal Palace. This roof will be supported by structures resembling the masts of sailing ships giving the Aquarium a naval theme that will be recognizable from both land and sea. Ground floor activities include a bookstore, food service, marine exhibits and neighborhood retail to enliven surrounding open space and 2,500 linear feet of Harborwalk.

A major water transit service adjacent to the new Aquarium will help mitigate traffic impact on the Charlestown community. Water shuttle service to Central Wharf will be provided every fifteen minutes to encourage City visitors and residents to enjoy a boat ride to the Navy Yard as part of their Aquarium experience. The new Harborwalk signage system will direct people from the Freedom Trail to the Aquarium to encourage visitation by the large number of tourists who now walk to the USS Constitution from downtown Boston.

A dynamic not unlike that between two anchor stores in a shopping center will be established between the Aquarium at Dry Dock 5 and the USS Constitution. In addition, major public open spaces at Shipyard Park and Yard's End will further reinforce the cultural/recreational magnets at either end of the Charlestown Navy Yard, thus maximizing public access throughout.

Pedestrian activity is expected to increase along First Avenue as people walk between the two attractions. This will enhance the viability of service retail uses on the ground floor of existing and new buildings. A festive marketplace, with preference for Charlestown businesses, is envisioned in a nearby location that would also benefit from the increased pedestrian flow.

Medical Research Center

Development of 1,100,000 square feet of biomedical research and laboratory space and related light manufacturing space is planned for Yard's End. The construction is scheduled to take place in two phases: a 550,000 square foot building between 1990 and 1993, and an additional

350,000 square feet for occupancy after January 1, 1994 -- the CANA completion date -- with expansion potential of up to 200,000 sq. ft. on Building 199. This biomedical and technology research center will provide substantial job opportunities and linkage to the Charlestown community while supporting the rapidly growing biomedical and biotechnological sector of the Boston and regional economy. At the same time, each of the phases is considerably smaller than the present Massachusetts General Hospital Research Center at Building 149.

The development at Yard's End will provide community benefits in the form of affordable housing creation and job training assistance funds. Housing linkage of \$5,000,000 will be slated for affordable housing in the Navy Yard and Charlestown. An additional \$1,000,000 will be made available for job training assistance programs to teach local residents the necessary skills to advance in the biotechnology industry. The Yard's End medical research center will generate approximately 2,100 new permanent jobs as well as spin-off local business opportunities in the Charlestown community.

The large, vacant sites available at Yard's End make it possible to balance large floor plates, necessary for research tenants with the creation of open space. Building heights will be limited to 155 feet in order to preserve streetscapes, view corridors and the unique character of the Navy Yard. In conjunction with the New England Aquarium at Dry Dock 5/Parcel 5, over 5 acres of new public open space will be created at Yard's End

Hotel/Conference Center

A 390-room hotel and conference center are planned for Parcel 4. The 98,000 square foot parcel is between the new Aquarium and the award-winning Bricklayers and Laborers affordable housing development. The hotel will meet the demand created by the Aquarium and research center, while providing 1,260 new jobs for residents of Charlestown and the City. The hotel will also assure that Yard's End remains active through evening hours.

The hotel will attain a height of 155' closest to First Avenue and Sixteenth Street, and step down to 125' on the portion of the site adjoining the Bricklayers and Laborers housing. The overall massing will step down towards the water's edge and be set back 50 feet from the water's edge, and create a public waterfront open space. Parking for 175 cars will be provided underground.

The hotel is designed around a public open space with direct connections to the water's edge. Public amenities and activities planned for the waterfront include public docks, open-air restaurants and a water taxi connection to all points on the harbor. A brick garden wall and a row of stately elm trees is envisioned to provide a landscape buffer between the hotel and adjacent housing.

Neighborhood Business Opportunities: Charlestown Community Marketplace

The Yard's End master plan creates an opportunity to relocate Building 75 to a prominent site between the New England Aquarium at Dry Dock 5/Parcel 5 and the medical research center at Yard's End. Such relocation will result in a dynamic extension of the historic Navy Yard character to the Yard's End area.

A rehabilitation design treatment that emphasizes the distinct visual aspects of Building 75 is well suited to accommodate marketplace uses such as pushcarts, stalls, small shops and food service. With the large wooden doors open, the marketplace will assume the character of a pavilion in the Yard's End park.

It is envisioned that a neighborhood-based not-for-profit organization will carry out this project. This participation need not be limited to planning and subsequent allocation of retail opportunities. People could also get involved in actually documenting and reconstructing Building 75 through a master/apprentice program that provided hands-on experience with historic building techniques. Relocation of Building 75 would be in the tradition of a New England barnraising. Charlestown neighborhood participation through all aspects of the project will assure that Yard's End truly becomes a vital part of the entire Charlestown community.

Relocation of Building 75 will also enhance the viability of achieving a compatible re-use of this historic structure. A festive marketplace with community retail will be accommodated within this structure with minimal alteration to its historic visual appearance. Such reuse is not, however, practical in its present location, which is off the beaten track from major activity generators such as the Aquarium and hotel.

Office or residential re-use within the confines of Building 75's volume is not economically feasible. Furthermore, such re-use would require significant visual alteration through facade infill between the granite piers. Relocation is therefore be the most advantageous alternative.

Navy Yard Housing Special Study Area

To maximize development of affordable and elderly housing in the Navy Yard, a Housing Special Study Area will be established. The Housing Special Study Area encompasses Buildings 39A, 42A, 108 and 150. The Special Study will focus on creating affordable housing, housing for the elderly, and necessary priority for Charlestown residents.

The four sites within the Housing Special Study Area have the potential to yield up 300 additional units of housing in the Navy Yard. This total represents about 30% of the housing currently developed in the Navy Yard, and about 25% of housing in the Navy Yard built or already in the planning stages. Maximizing housing development in the Special Study Area will further the objective of revitalizing the Navy Yard as a critical component of the Charlestown community.

Yard's End Parking

At present there are 1,386 parking spaces located within Building 199. Projected future buildout at Yard's End will require the addition of about 1,275 parking spaces to the current inventory. One hundred seventy-five spaces will be built in conjunction with the hotel/conference center. The remaining 1,100 spaces will accommodate the needs of the Aquarium, the medical research center and attendant retail uses. With the exception of a relatively small facility such as the 175-space garage serving the hotel/conference center, the development of significant below-grade parking is not feasible at Yard's End. The area consists of land fill, making construction of underground parking extremely costly.

The parking plan contemplates relocation of Building 75 within Yard's End and construction of an above-grade parking structure adjacent to the Building 199 garage. This scenario creates a preferable traffic circulation pattern for the entire Navy Yard, as parking supply is consolidated in close proximity to entry and exit gates. Through traffic volumes would be decreased and internal circulation minimized.

A Diversified Economy

During World War II approximately 50,000 were employed in the Navy Yard. In the early 1950's upwards of 30,000 people were still employed. Generations of Boston and Charlestown families depended upon the Navy Yard for jobs and livelihood. Charlestown businesses such as restaurants, service retail and other convenience stores felt the economic boost of this employment center. The number of Navy Yard employees had declined to 5,000 by 1974 when the Nixon Administration closed the facility. Coupled with the closing of the Schrafft's Candy Company and subsequently the Revere Sugar Company in 1984, the economic lifeline of long-term Charlestown and Boston families was significantly impaired. The necessity of creating new jobs for local residents was clear. Administration's aggressive policies created an era in which assurances were guaranteed that Boston residents would receive preference in obtaining newly-created jobs. The net addition of over 3,000 new jobs in the Navy Yard since 1984 has begun to relieve the economic pressures which Charlestown suffered with previous job losses.

Despite slowing economic conditions and the state fiscal crisis, Boston is uniquely positioned not only to maintain a strong local economy but also to lead the region in economic recovery. Research conducted by Boston's prominent institutions of higher education and medicine will continue to spawn industries in biotechnology, pharmaceutical products, computer software, medical instruments, and high technology. This economic potential will lead the revitalization of the Charlestown Navy Yard. The Mass General Hospital Research Center at Building 149 heralds the emergence of the Navy Yard as a primary center of this new economy.

Nine of the top 11 U.S. hospitals receiving the most National Institutes of Health (NIH) funding for health care research in 1985 were Boston institutions. Competition is keen nationwide for the NIH funding, but Boston continues to lead other cities .

One of the most important economic benefits generated by the medical research industry is the broad range of job opportunities for technical and other skilled workers, across a wide spectrum of salary levels. According to the Medical Industry Survey prepared by the BRA Research Department in 1987, approximately 55% of the jobs in medical research

being conducted at Boston hospitals are held by people with no higher than a Bachelor's degree, i.e., by people without "advanced" degrees. The biomedical research industry is rapidly evolving, and additional positions in finance, production, quality control, marketing, sales, and other functions supporting the basic research will be created as the industry matures.

Employment Trends

With the emergence of the bio-technology R&D industries, the City is developing job training and educational programs aimed at producing a local community prepared for employment in the Navy Yard's growing industries. Training assistance will be critical for Charlestown to capture its percentage of new jobs. In 1980, 48% of all jobs located in Charlestown were in manufacturing and only 1% were in finance, insurance and real estate. These figures will change significantly as manufacturing jobs decline and professional and services sector jobs increase. Charlestown must be prepared to meet these changes. Future development at Yard's End will provide the following jobs:

I. Construction Employment – 3,400

All developments will include a Boston Residents Construction Employment Plan, requiring efforts by the contractors to provide 50% of the total employee worker hours in each trade by bona fide Boston residents, 25% by minorities, and 10% by women.

II. Permanent Employment – 3,500

- A. All developments will include an Employment Opportunity Plan requiring efforts to provide a minimum of the employment opportunities to be made available to Boston residents.
- B. A First Source Agreement with the Mayor's Office for Jobs and Community Services shall require employers to use the services of the "Boston for Boston" placement office sponsored by the Private Industry Council in recruiting permanent employees from Charlestown and other neighborhoods.
- C. Labor Market Studies -- Neighborhood hiring goals shall be determined after a qualified labor market economist has assessed the

skills of the unemployed and underemployed residents, their need for further skill training, and the labor shortages of the tenants.

D. Jobs Linkage – \$ 1,290,000 funding to support job training programs for the rapidly evolving health care/biomedical/biotechnology industry and associated sectors of the economy.

E. Job Training Center – To provide job training, counseling and referral so as to match the workforce to the high growth industries.

III. Vocational Education

A. Boston Health Careers Academy -- The target populations to be served by the proposed Academy, now in the planning stage, are those with the highest need for vocational training: high school students, dropouts, working parents, potentially displaced health care workers, unemployed teens and adults. The Academy will strive to establish close working ties between employers, unions, educational institutions, and vocational training providers.

B. Collaboration of Bunker Hill Community College and the Conference of Boston Teaching Hospitals (COBTH) -- The City will promote the addition of Bunker Hill Community College to the COBTH as a provider of training programs for health care workers interested in shifting to high-demand, high-vacancy positions in the biomedical field.

C. Biomedical Technology Training Program -- The City will collaborate with the Bay State Skills Corp. in promoting this college level, degree granting training program to residents of Boston.

D. Biomedical/Biotechnology Occupational Endowment -- Establishment of a fund for the purchase of slots in accredited biomedical education programs for qualifying low- and moderate-income residents of Charlestown.

IV. Additional Day Care Centers

Providers will be encouraged to establish a relationship with a local academic institution(s) in order to achieve the highest possible level of care as well as generate job training opportunities. A Day Care Center opened in 1989 at building 38, and further facilities are planned for building 149, 266 and the Yard's End Research Center.

Public Access / Open Space

The Open Space Master Plan for the Navy Yard incorporates the original plan by Loamm Baldwin and Alexander Parris in 1828 and its later expansion and transformation in the late 19th and 20th centuries. This existing organization of streets, buildings and piers, as well as proposed new developments are integrated around a pedestrian circulation/access concept that will reconfigure the Yard without destroying its atmosphere. The larger vision of the Harborwalk system will connect the Navy Yard to both the harbor and downtown. In addition, several new pedestrian gateways will reinforce the existing auto entries as gateway connections to the Charlestown neighborhood. This open space reclamation plan will provide a unique physical resource adjacent to Charlestown and Boston Harbor.

The open space plan is based upon the following five principles:

1. To reinforce the existing street grid and the view corridors to the harbor, in order to connect the major public open spaces, as well as to provide pedestrian connections to Charlestown. The major pedestrian corridors are as follows:
 - a. First Avenue will become the major auto and pedestrian spine
 - b. Second Avenue will become a pedestrian mall
2. To provide two major new open space/park spaces for the community and reinforce the open space activities of the adjacent National Park Service U.S.S. CONSTITUTION activities and the Freedom Trail.
 - a. Shipyard Park will include Dry Dock #2 for water views and access to the water shuttle as well as an urban park, promenade and sitting area, in addition to a 13-acre park space on the site of the demolished building #195. Together these two elements will afford various active and passive recreational activities (total: 15 1/2 acres).
 - b. Yard's End Open Space will include the new Marina Park and the Aquarium plaza. These open spaces will reinforce the public activities planned around and in the new Aquarium facility (5 acres).

The combination of the proposed 20 acres of open space and the new Aquarium is more than three times the area of today's Aquarium site and nearby Waterfront Park.

3. To create Harborwalk as a continuous pedestrian thoroughfare along Boston's waterfront. Through the relocation of the new Aquarium to Dry Dock #5 and the provision for additional marina dockage at Pier 9, the Harborwalk within the Navy Yard will be almost 3 miles long. The Aquarium area will be the northern terminus of the proposed 43-mile long Harborwalk which will eventually extend as far south as the Neponset River in Dorchester.
4. To reconnect the historic core and residential areas of Charlestown across Chelsea Street and the elevated expressway to the Navy Yard and the harbor.
 - a. Gates 1, 2, 4, 5, and 6, as well as possible new pedestrian arcade through the Ropewalk and another adjacent to its headhouse will provide pedestrian access to the Harbor along Chelsea Street. This will include a direct connection from the Navy Yard to the Little Mystic Channel open space.
 - b. Chelsea Street and the Flirtation Walk will become tree-lined corridors. A variety of smaller public plazas and open spaces as well as the various gateways into the Navy Yard from Charlestown will provide a landscape connection between the Navy Yard and Charlestown.
5. At least 45% of the piers and 50% of the total land area of the Navy Yard outside the Historic Monument Area will be open space. Within the residential areas, diverse open spaces programmed for active and passive uses will be provided. Garden spaces, sitting areas and play spaces will also be designed as landscape buffers between major transportation routes and smaller residential areas.

Open Space Public Activities

Charlestown Navy Yard

(in acres)

Open Space/Parks

1)	National Park Service Constitution Marshalling area	5.75
2)	Shipyards Park (including Dry Dock 2)	15.5
3)	Aquarium Plaza and Marina Park (proposed)	3.5+1 = 4.5

Comparisons

1)	Government Center Plaza	5.75
2)	Faneuil Hall, Quincy Market and Government Center	13.75
3)	A. Downtown Waterfront Park	4.75
	B. Bunker Hill Monument Square	4.25
	C. Barry Playground	5.72

Linear Pedestrian Malls

Linear Feet

1)	First Avenue	4,300
2)	Chelsea Street	2,800
3)	2nd Avenue Pedestrian Mall	2,000
4)	Harborpark	
	CNY (less Pier 9 and drydocks 2.65 miles)	14,000
	NPS and Tutor Wharf (1.00 mile)	5,200
5)	Flirtation Walk	1,500

Comparisons

1)	Boylston Street Public Garden to Mass. Ave.	4,500
2)	Boylston Street Public Garden to Copley Square	3,000
3)	Downtown Crossing Pedestrian Mall	800
4)	Harborwalk Downtown Commercial Wharf to Rowes Wharf (water shuttle)	6,200
5)	Atlantic Avenue Waterfront Park to Rowes Wharf	1,500

Transportation

As improvements to the Navy Yard are completed, more people will take advantage of the opportunity to work, live, and enjoy recreation at the Yard. Providing people with convenient access to and from the Navy Yard, with a minimum of disturbance to the surrounding neighborhoods, is the subject of a comprehensive Transportation Plan that has developed for the Yard. This plan has six key elements:

1. Capacity Improvements to Regional Street Network

- Proposed creation of a new "haul road" connecting the Navy Yard to Sullivan Square, via the Little Mystic Bridge using existing railroad right-of-ways. This road would be used primarily by truck traffic and would divert such traffic from City Square.
- Restoration of Chelsea Street to four lanes between City Square and the Navy Yard as part of the Central Artery North Area (CANA) improvements.
- Proposed intersection improvements to City Square now being studied by the Boston Transportation Department.
- The placement of a new traffic signal at the intersection of Chelsea Street and Medford Street, to be coordinated with the signal at Gate 5.

2. Improvements to Navy Yard Access and Circulation

- The creation a new Gate 6 and widening of Gate 5 providing improved access to the western end of the yard.
- The creating of a "two loop" circulation system within the Yard. This will help separate higher traffic levels serving the proposed aquarium, hotel, and research space at the western end of the Yard from lower density residential and office areas at the eastern end of the Yard.

3. Water Shuttle Service

- The creation of a new water shuttle docking facility serving the aquarium and other buildings at Yard's End.
- The use of a high capacity (approximately 150 person) water shuttle serving the aquarium during the summer months, with departures every 15 minutes.
- The continuation of existing water shuttle service to Pier 4.

4. Bus Shuttle Service

- The establishment of bus shuttle service between the Navy Yard and MBTA subway and commuter rail lines with departures every five minutes during weekday morning and evening rush hours.
- The establishment of a bus or tram shuttle service carrying visitors between the U.S.S. Constitution and the aquarium.
- The establishment of bus shuttle service between the aquarium and a satellite tour bus parking lot across the Little Mystic Channel.

5. Pedestrian Access

- The creation of a pedestrian-only gate between Gates 4 and 5 to provide Charlestown residents with convenient pedestrian access to the Yard, separated from vehicular traffic.
- Continued streetscape improvements to Navy Yard streets to make walking more enjoyable.
- The encouragement of more retail, restaurant, and recreational uses to get more people on the streets.

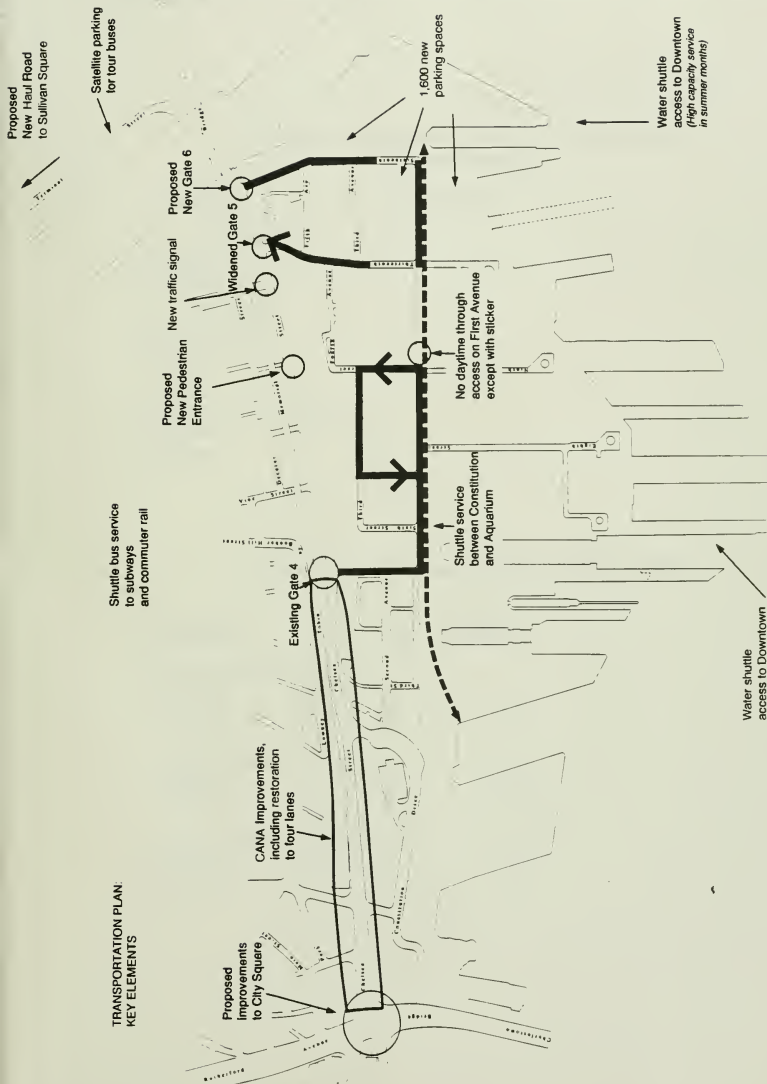
6. Parking

- The construction of 1600 new parking spaces, including a 1300-space garage and additional parking on the hotel and research space sites.
- The implementation of state-of-the-art shared parking arrangements, allowing optimum utilization of parking spaces.
- The construction of a satellite bus and overflow parking facility across the Little Mystic Channel.

7. Transportation Management

- The creation of a Transportation Management Association among building owners to support programs designed to reduce single-passenger car use by tenants and employees.

**TRANSPORTATION PLAN:
KEY ELEMENTS**



**Chelsea Street Signalized Intersection Analysis 1995
Widened Gate #5**

<u>Intersection</u>	<u>LOS</u>	<u>Delay (sec.)</u>
Gate 4 (Fifth Street)		
AM Peak	B	11
PM Peak	B	10
Medford Street		
AM Peak	B	13
PM Peak	B	14
Gate 5 (Thirteenth Street)		
AM Peak	B	15
PM Peak	B	6

**Chelsea Street Signalized Intersection Analysis 1995
New Gate #6**

<u>Intersection</u>	<u>LOS</u>	<u>Delay (sec.)</u>
Gate 4 (Fifth Street)		
AM Peak	B	11
PM Peak	B	10
Medford Street		
AM Peak	B	13
PM Peak	B	14
Gate 6 (Sixteenth Street)		
AM Peak	B	15
PM Peak	B	6

The transportation and parking needs associated with proposed new development at the Navy Yard have been analyzed by transportation consultants in light of the Transportation Plan outlined above. Their conclusion is that adequate levels of service can be maintained at all affected intersections and streets leading to the Yard. At City Square this conclusion relies on the implementation of intersection improvements now being studied by the Boston Transportation Department. The consultants also concluded that parking demands associated with the new development would be met with the parking proposed as part of the Plan. Satellite parking, developed across the Little Mystic Bridge, will meet overflow parking needs during peak summer weekdays.

Housing

In 1984, a goal of 25% "affordability" for all housing created in the Navy Yard was established within a housing development policy reflecting mixed-income and ownership models.

As a result of this policy, 171 affordable housing units were created in the Yard, out of a total additional buildout of 574 units, achieving a 30% affordability ratio during this period. This buildout included 112 elderly units in Building 103, 9 elderly and 83 rental units in Building 106, and 50 affordable homeownership units at Parcel 4, a site originally slated for market rate housing. The overall result of this housing development in the Yard has resulted in a total of 562 market units completed, and 208 more units in the pipeline for a total of 770 market units, and 171 affordable units completed.

Future Housing Development

The first new housing development of the 1990s will be 50 affordable houses at Building 104, to be constructed by the Bricklayers and Laborers Non-Profit Housing Corporation. Future housing development will produce 110 more market units on Pier 5 and a minimum of 100 more affordable units within the Special Study Area which includes Buildings 40A, 39A, 150, and 108. There is capacity to produce not only affordable housing units, but also more open space, and a potential 200-unit elderly life-care facility. Upon completion this buildout will result in at least 25%, and up to 27% of the Navy Yard housing being affordable to low and moderate income families.

The complete Navy Yard buildout will result in at least 1,200 housing units, of which at least 300 will be affordable. If the Special Study process concludes that all sites studied should be redeveloped for housing, then the total number of housing units could reach 1,500, of which 375 would be affordable. In either case, the Navy Yard would be one of the largest mixed-income housing development on a waterfront site in New England. The Navy Yard will literally be home to Charlestown residents by an aggressive housing production schedule and affordability requirement.

	In Navy Yard	Outside Navy Yard
Pipeline	941/171	434/176
Future	260/150	58/30

* Not including Housing Special Study Area

Linkage

In addition to BRA land, funds, and technical contributions to housing development in Charlestown, private developers have also contributed to affordable housing production. Building 149's linkage commitment provided \$341,986 to the Main Street Townhouse project, and \$650,000 to the Parcel P-2 housing project directly across the street. Another \$651,446 from this commitment has been set aside for other Charlestown housing developments. New development at Yard's End will contribute more than \$5 million in housing linkage.

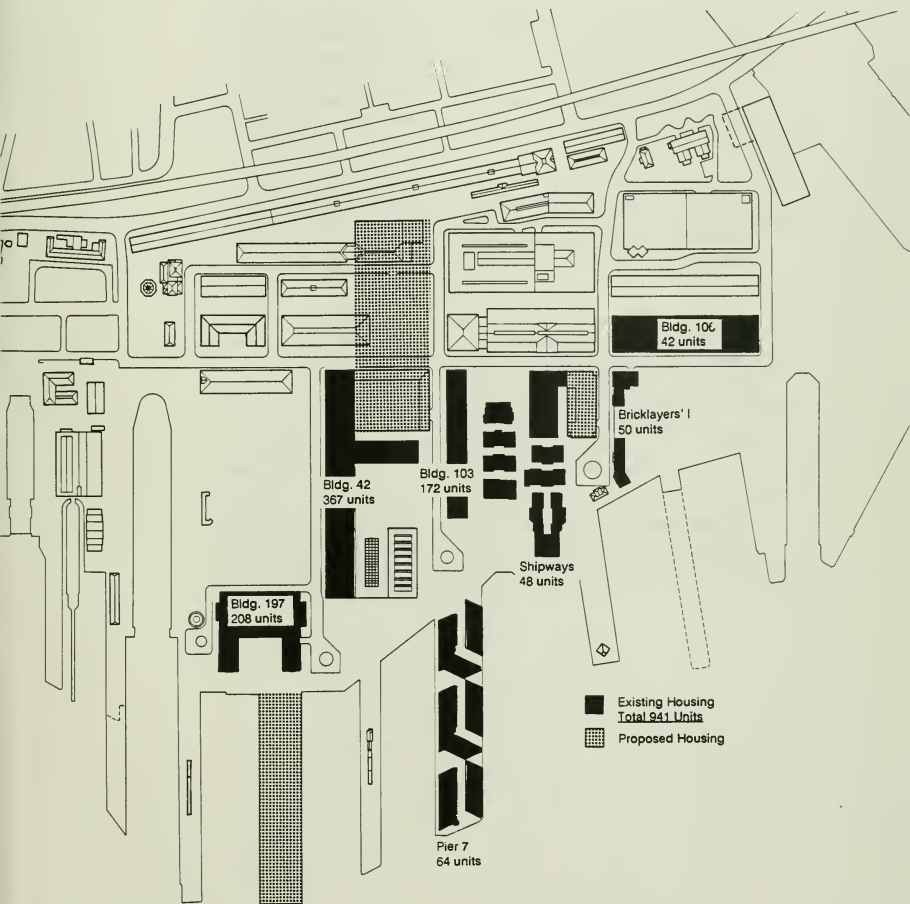
Downtown linkage contribution as well as other non-linkage dollars have also facilitated housing development in Charlestown. For instance, \$79,000 additional linkage funds went to the Main Street townhouses project, and a \$866,984 non-linkage contribution from Building 197 went to the Bricklayer's and Laborers Union Navy Yard rowhouses which also received \$1,176,000 from other public and private sources.

Private developer contributions have not been limited to housing development. The Charlestown Community Fund has received pledges of \$442,341 for the benefit of non-housing projects in Charlestown. To date, \$120,000 in grants has been given to deserving projects.

The Charlestown Navy Yard is one of the largest mixed use, waterfront development in New England. It has also become a model for other housing creation projects in its 25% affordability goal and its balance of mixed rental and ownership units (with 562 rental units and 329 condo units).

Upon completion of Navy Yard housing development, the housing count in Charlestown will finally surpass the high water mark of housing units which existed in the 1950s before the loss of housing during the 1960s and 70s. The partnership between the neighborhood and City Hall has successfully produced a major housing initiative for Charlestown citizens, in the face of declining resources for housing production.

Charlestown Navy Yard Housing



Historic Preservation

The Navy Yard's rich past exists today in the many historic buildings in the Historic Monument Area. However, many of the Navy Yard's most important historic buildings, such as the Ropewalk, are in poor condition and need to be renovated. While 14 of the 22 buildings in the Historic Monument Area have been rehabilitated, the plan calls for the rehabilitation of the remaining historic buildings between the years 1990-2000.

The legacy of such important Boston architects as Alexander Paris and Joseph Billings is evident in the craftsmanship, aesthetic values, and ingenuity in the Navy Yard's buildings, streets, and parks. Their work is part of the public realm which Charlestown and Boston residents now enjoy. Their legacy provides Charlestown with ties to its past, special identity, and a valuable resource.

The Navy Yard today combines urban features from 190 years of history, development, and change. Its evolution from a naval ship yard to its current mix of uses has been undertaken with the goal of maintaining the continuity in its form. The building stock is a resource, investment in manpower, energy, materials and craftsmanship inherited from the past. In the past five years significant investment has been made to rehabilitated structures restoring millions of square feet of space while creating thousands of construction and permanent jobs.

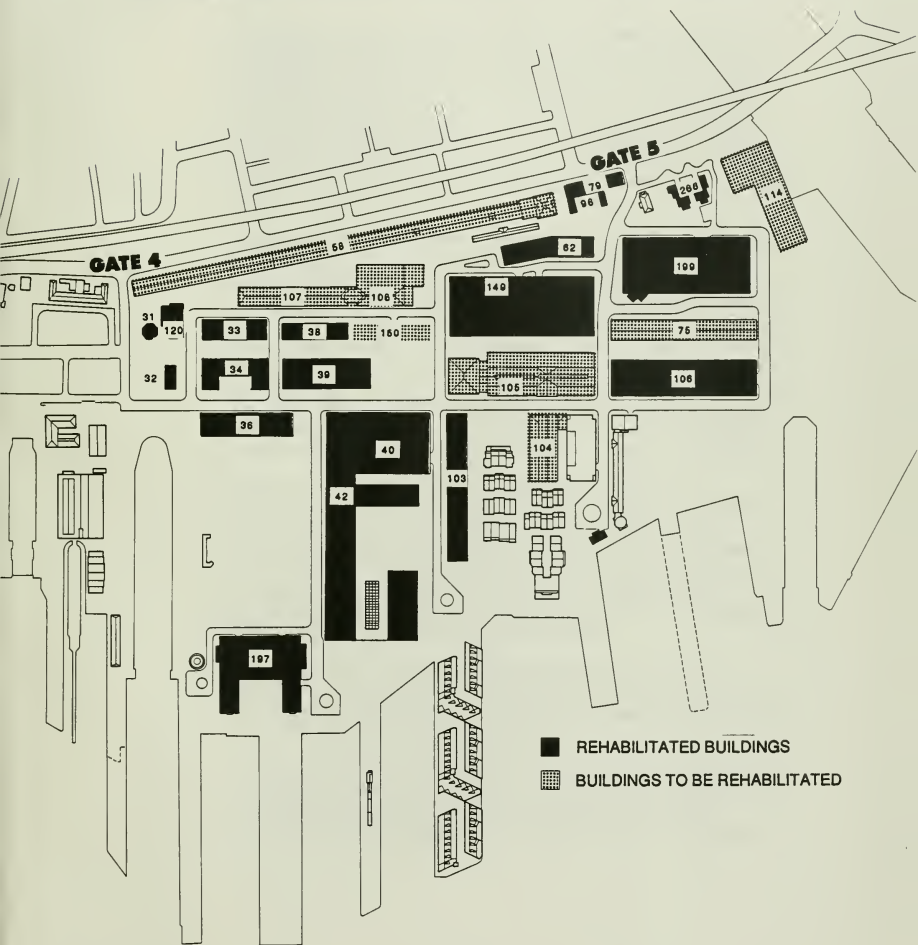
The Master Plan will further preserve the historic character of the Navy Yard by protecting the blocks, historic buildings, and street patterns; steering major development to Yard's End, which is mostly vacant; limiting building heights in the Historic Monument Area; and promoting renovation of the remaining historic buildings.

Historic Monument Area

Design guidelines govern the rehabilitation of buildings in the Historic Monument Area. These guidelines require that reuse of the buildings proceed under review by preservation authorities to ensure that their integrity is maintained. The plan implements guidelines to:

- Limit the height of new buildings;
- Establish the Historic Monument Area as a protection area in the new zoning;
- Steer major new construction to Yard's End, which has few historic buildings; and
- Require design review of new buildings to ensure their compatibility with the Navy Yard's new buildings.

Charlestown Navy Yard Rehabilitated Buildings



Achieving the Plan: Zoning

The Zoning Plan was developed to ensure that Charlestown's waterfront is accessible to all residents for housing, open space, transportation, public access to and along the harbor's edge, and commerce. The intent of the Harborpark zoning is to create a balance of these uses along the waterfront. The primary goals of the zoning are to provide continuous access along Boston's entire waterfront, protect the working waterfront by promoting water-dependent and water-related commercial activities, and promote balanced growth and mixed-use residential and commercial areas.

The Harborpark District Zoning Plan sets aside more than 1,000 acres of waterfront land as open space and initially reserves 660 acres for maritime industries. It includes requirements for 50% open space on new private development and public access along the perimeter of all sites. It creates height, density, and use controls and establishes development and design review guidelines. Development and design review requirements will guarantee that new waterfront development is in character with the existing waterfront and is compatible with nearby residential areas. The zoning also targets areas for affordable housing for Boston residents and establishes a Water Transportation Priority Area to guarantee that new projects incorporate docks or piers for shuttles, ferries, and water taxis.

The zoning for the Charlestown Waterfront area replaces the Harborpark Interim Planning Overlay District. The Harborpark IPOD was created in March 1987 to establish temporary zoning to assure appropriate growth and to protect the waterfront from inappropriate uses, permitted by the underlying zoning, while permanent zoning was being established. Since the IPOD was created, a comprehensive planning study has been developed, which the new zoning implements. The Charlestown Waterfront zoning plan includes:

A Housing Priority Area is established in the Navy Yard, in which two-thirds of any project must be housing. The Housing Priority Area includes piers and the area directly landward of them. Overall, housing in the Navy Yard will be 25% affordable.

Outside of the Historic Monument Area, fifty percent of all project sites must be preserved as open space with a major portion dedicated to the public. Public access requirements require projects to provide a continuous walkway along the water, open to the public. In order to

ensure that public access to the waterfront is maintained, setback provisions of 35 feet from the ends of piers and 12 foot setback from the sides of all piers are required. Public access requirements include a continuous walkway along the water, open to the public, called Harborwalk. The same 50% requirement applies to other land on the Charlestown Waterfront. The North End Playground and Christopher Columbus Park, the National Historical Park, and Shipyard Park are Open Space Subdistricts.

Proposed projects on all waterfront lots must conform to environmental protection and safety standards for trash disposal, areas for recyclable materials and provision of safety ladders. Safety ladders must be located every one hundred feet along portions of the water with seawalls, piers, and wharves.

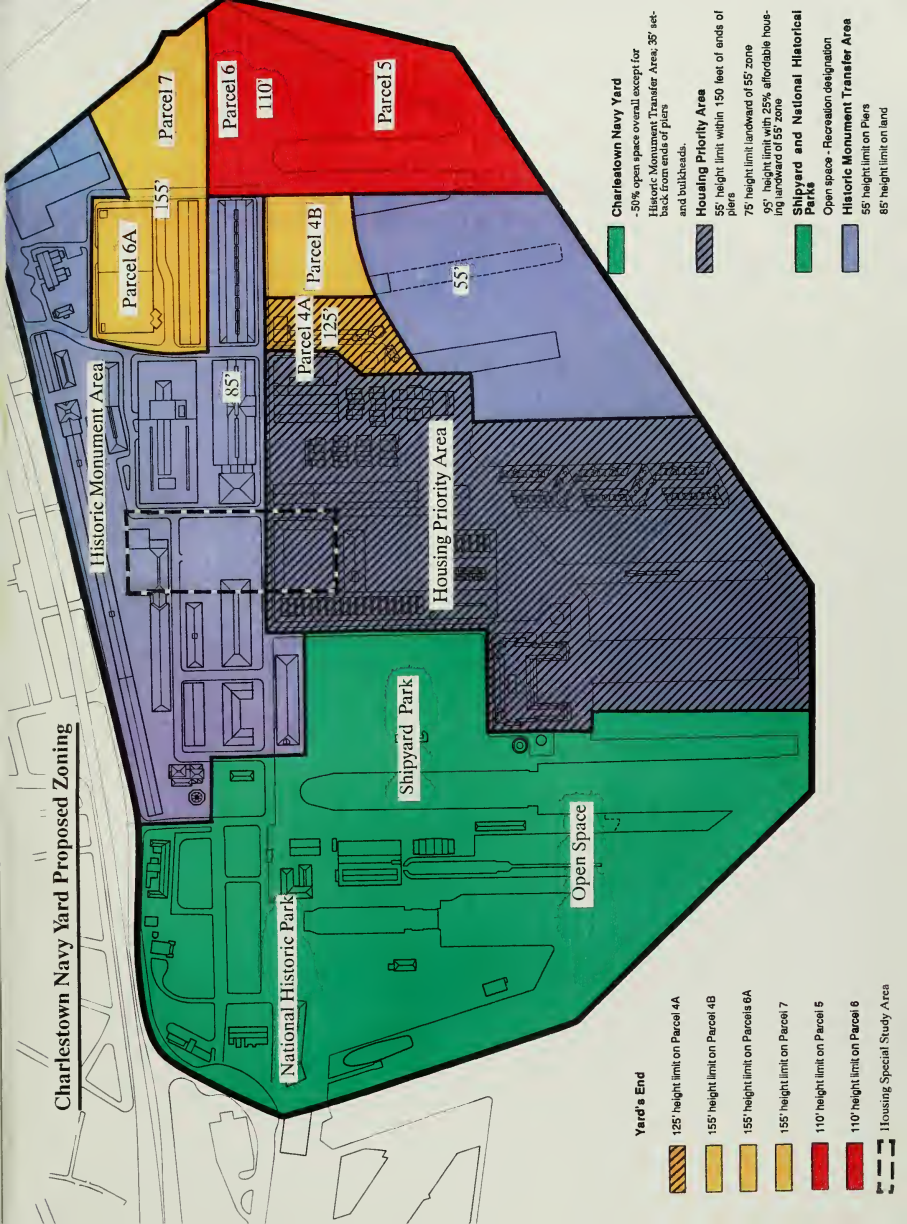
A 55 foot height limit applies for 150 feet back from the ends of Piers 5 and 6 in the Navy Yard, with a 75 foot height limit for the remainder of the piers. In the rest of the Housing Priority Area, the height limit is 75 feet, or up to 95 feet if the building is at least 25% Affordable. Within the Historic Monument Area, a height limit of 85' applies.

In Yard's End, height limits range from 55 feet on Pier 8, to 110 feet on the site of the new Aquarium, to 125 feet next to the Bricklayers housing stepping up to 155 feet for the planned hotel, up to 155 feet where the new research center will be located. Linkage contributions from the research center will be targeted to Charlestown affordable housing.

The Zoning Plan also reflects the metered build-out provided in the Master Plan. Occupancy of buildings at Yard's End prior to January 1, 1994 – the projected completion date of the Central Artery North Area Project – will be limited to the Aquarium, the hotel, and Phase I of the research center. Only after this time may Phase II of the research center be occupied – when adequate transportation improvements are in place to handle the additional traffic.

Proposed Navy Yard zoning includes provisions to ensure that specific impacts of each individual development are identified and mitigated. This is accomplished through extending the Development Review requirements to the Navy Yard. A Transportation Access Plan that includes a detailed analysis of existing traffic conditions, potential project impact and measures for mitigating adverse impacts, will be required for each major new project over 10,000 square feet in area.

Charlestown Navy Yard Proposed Zoning



In addition, the plan contemplates additional housing development in the Navy Yard: 75 units at Building 104, 110 units on Pier 5, and an additional 50 units within the Housing Priority Area.

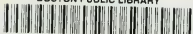
Limits on rooftop additions are established, stating that no roof structure may be erected or enlarged on the roof of an existing building without public notice and a hearing. Roof structures must be architecturally consistent with the distinctive historical and architectural character of the area.

At least 40% of the first floor of any project must be devoted to facilities of public accommodation. No residential uses will be permitted on the first floor on piers.

To ensure the blending of new and old architecture along the waterfront, the massing and character of buildings should reflect the historic, linear finger-pier wharf buildings. Buildings should be set back to allow for waterfront walkways, and massing and heights should be stepped up from the water's edge to allow for views of and from the waterfront and to provide a transition from the waterfront to the downtown skyline.

Ultimately these efforts will restore the harbor as a key resource for the city's social and economic life. The Harborpark District Zoning Plan ensures that the city's residents, workers and visitors will be able to take full advantage of the great natural resources offered by the harbor and surrounding waterfront.

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